

# Active Error Correction by Stereoscopic LiDAR Tracking of Munitions in Conjunction with Actuated Cannon

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## Introduction

As the age of classical dogfights is well-behind us, many military analysts have questioned whether it makes sense to equip fighter aircraft with Gatling guns. As fighter jets are increasingly called upon to shoot down greater numbers of targets, sc. drones, using the most affordable possible munitions, it is clear that Gatling guns will continue to be an essential feature on fighter aircraft. Our focus should, therefore, be upon increasing the usefulness of the technology.

## Abstract

A standard Gatling gun on a fighter aircraft may be enhanced in its usefulness, particularly when the aircraft is tasked with the shoot-down of drones and cruise missiles by equipping pairs of fighters with stereoscopic LiDAR designed to track the flight of outgoing rounds vis a vis the position of the drone being targeted.

The gunner aircraft and a support aircraft flying about 1000 feet lateral to the gunner aircraft would each feature a LiDAR designed specifically to resolve the position of 20mm munitions. When working in tandem, two fighters could automatically assess the deviance of a single test shot in order to calculate how an actuating cannon must be adjusted in order to deliver a round accurately to the target.

The ideal implementation would be to fire a single test round and, as rapidly as possible, make the needed aim adjustment and to fire a burst in the optimal direction. This would allow for the effective range of the cannon to be maximized whilst conserving ammunition which is liable to be quickly depleted when attempting to shoot down small targets.

## Conclusion

Making such a feature standard on strike fighters would be a good investment given the number of recent instances in which such a capability was needed but in which conventional aiming methods had to be used in order to attempt shoot-down of drones and missiles in-flight, putting pilots at risk of crash due to distraction, not to mention the civilians on the ground.